



Australian Government
Department of Resources, Energy and Tourism



Australian Government
Geoscience Australia

2009 RELEASE OF OFFSHORE AREAS FOR GREENHOUSE GAS STORAGE ASSESSMENT

**AREA OTWY-01
OTWAY BASIN
SOUTH AUSTRALIA**

**BIDS CLOSE: THE LATER OF THE 6 MONTHS AFTER THE RELEASE OF THE ACREAGE OR
2 MONTHS AFTER THE REGULATIONS UNDER THE ACT HAVE BEEN PROMULGATED**

Shallow water depths
Storage potential in structural traps within tilted fault blocks and traps associated with sedimentary
drapes over deeper structures and migration dissolution/residual trapping
Moderate seismic and well coverage

Special Notices apply, refer to **Guidance Notes for Applicants**.

GREENHOUSE GAS (GHG) ACREAGE RELEASE – 2009

OTWAY BASIN, SOUTH AUSTRALIA

The Otway Basin is a large, broadly northwest-trending sedimentary basin encompassing onshore and offshore parts of South Australia and Victoria, and extending into Tasmanian waters. Water depths are shallow, typically less than 200 m depth. The Otway Basin has extensive seismic coverage and good distribution of petroleum wells. Potential structural traps associated with tilted fault blocks and structural/stratigraphic traps in draping strata over deeper structures provide the potential for GHG storage.

Reservoir: Early Cretaceous Pretty Hill Formation; Waarre Formation and the Timboon Sandstone.

Seal: Intraformational shales including the Pember Mudstone, Flaxman Formation, as well as regional seals including the Belfast Mudstone, the Laira Formation and the Eumeralla Formation.

Trap: Multiple structural and sedimentary traps and migration dissolution/residual trapping.

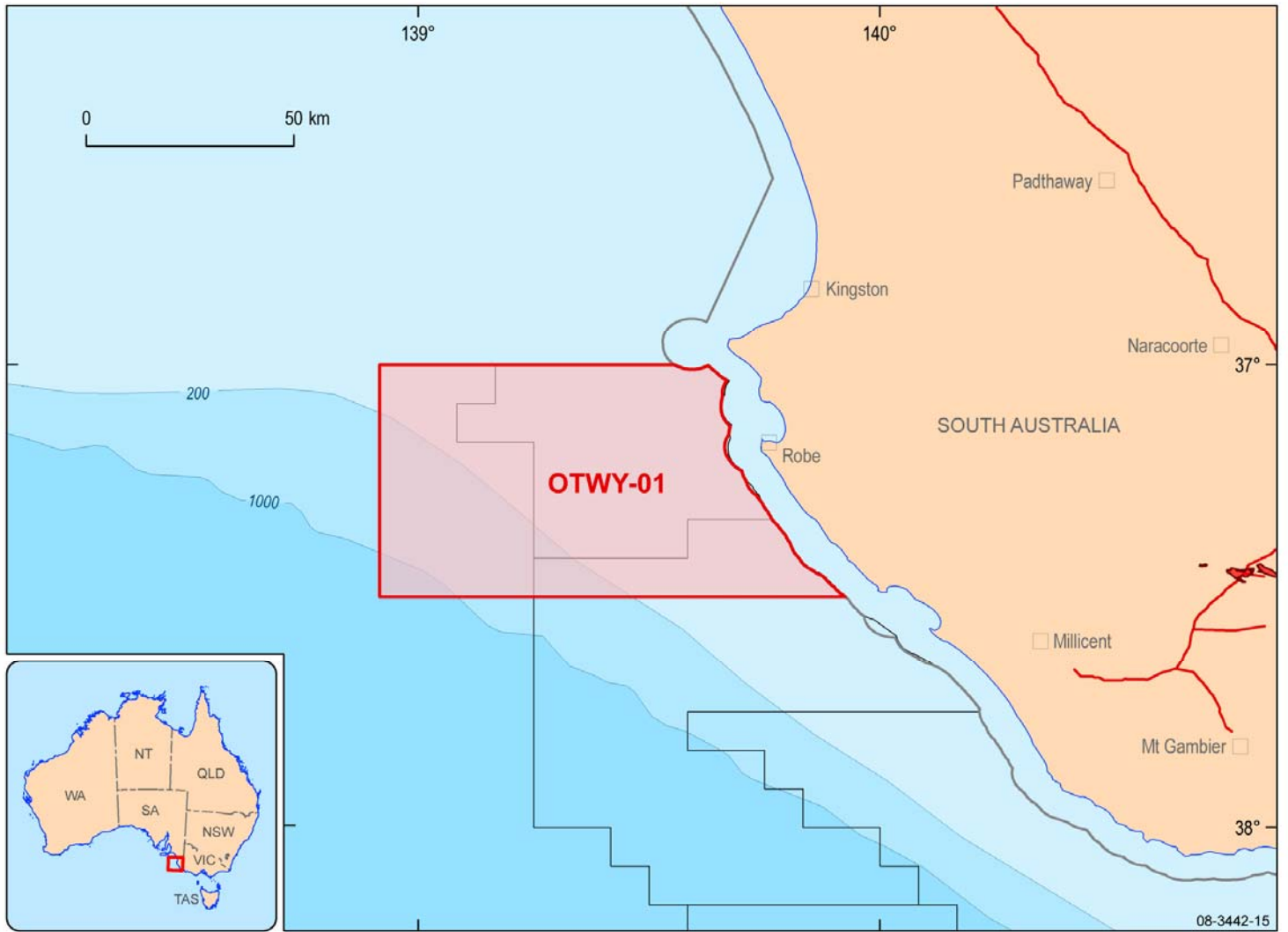
Refer to Krassay et al., 2004 for stratigraphic information.

OTWY-01, Otway Basin

OTWY-01 is located along the northwestern edge of the Otway Basin, about 10 to 85 km off the South Australian coast, and west of Robe (Figure 1). Release area OTWY-01 covers an area of approximately 4025 square kilometres and 65 graticular blocks or parts thereof (Figure 2).

Overlapping Petroleum Exploration Titles

Release Areas	Overlapping Petroleum Titles	Petroleum Title Holders
OTWY-01	EPP34	Exoil Ltd (Operator); United Oil & Gas; Moby Oil & Gas Ltd; National Energy; National Gas Australia Ltd; Gascorp Australia Ltd
	EPP35	Exoil Ltd (Operator); Gascorp Australia Ltd; Moby Oil & Gas Ltd; National Energy Ltd;



Field outlines supplied by Encom Petroleum Information Pty Ltd. Field outlines in GPinfo are sourced from the operators of the fields only.
 Outlines are updated at irregular intervals but with at least one major update per year.
 The Coastal Waters shown on this map are indicative only.
 A precise determination of the Coastal Waters will be determined at the time of issue and included in the permit boundary as a Metes and Bounds determination.

- | | | | |
|---|--------------------------|--|-----------------------------------|
|  | 2009 GHG release area |  | Gas pipeline |
|  | Existing petroleum title |  | Coastal waters limit |
|  | Gas field |  | -200- Bathymetry contour (metres) |

Figure 1. Location map of offshore Greenhouse Gas Storage release areas for Assessment OTWY-01, Otway Basin.

GRATICULAR BLOCK LISTING

Area OTWY-01, Otway Basin

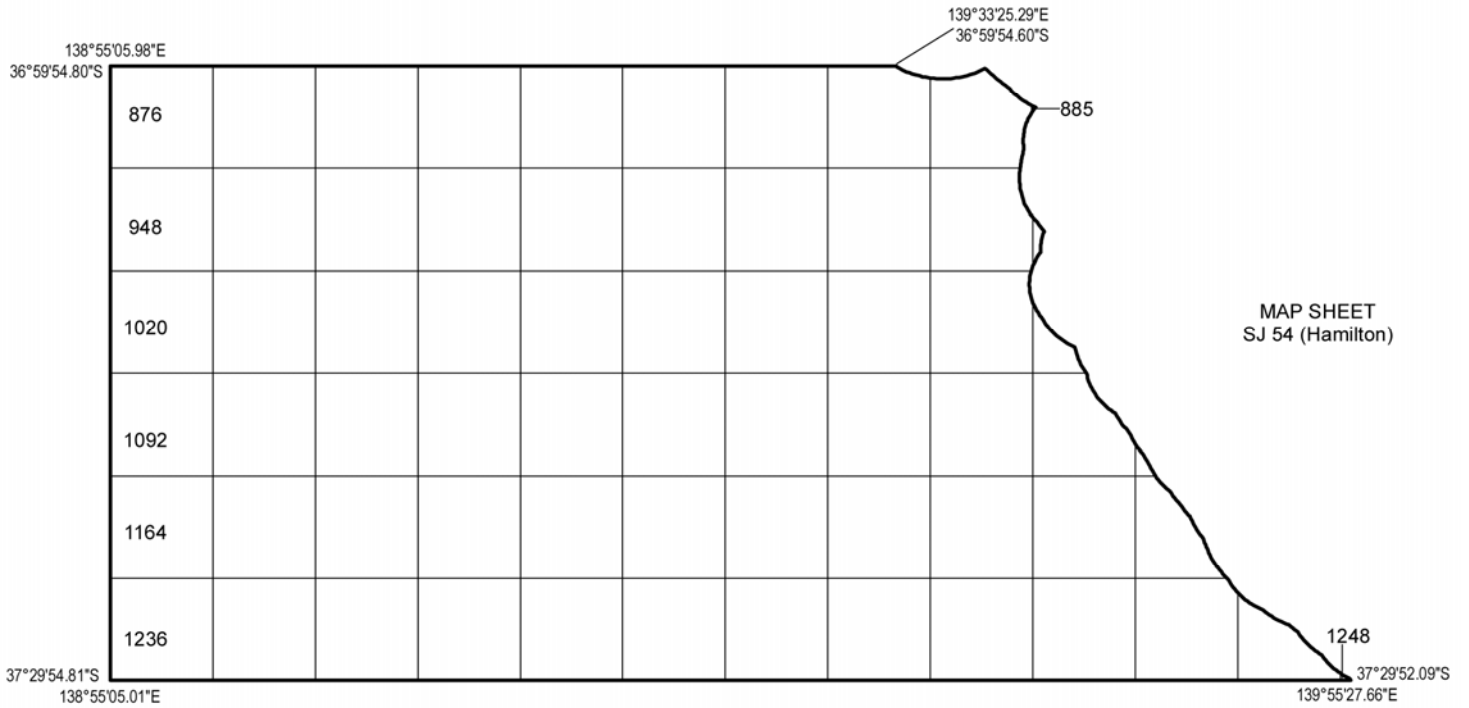
Map Sheet SJ 54 (Hamilton)

876	877	878	879	880	881	882	883 PART	884 PART	885 PART
948	949	950	951	952	953	954	955	956 PART	957 PART
1020	1021	1022	1023	1024	1025	1026	1027	1028 PART	1029 PART
1092	1093	1094	1095	1096	1097	1098	1099	1100	1101 PART
1102 PART	1164	1165	1166	1167	1168	1169	1170	1171	1172
1173	1174 PART	1236	1237	1238	1239	1240	1241	1242	1243
1244	1245	1246 PART	1247 PART	1248 PART					

2009 Release Areas Otway Basin, Victoria

OTWY-01

(65 blocks, approx 4025 km²)



Geographical coordinates on this map are presented with reference to the Geocentric Datum of Australia (GDA94). Permit areas are based on the same grid, Australian Geodetic Datum (AGD66), that has defined areas since the Petroleum (Submerged Lands) Act was proclaimed in 1967. However, with the adoption of GDA94, the graticules are no longer referred to in whole multiples of 5 minutes as they were under AGD66. Parts of the outer limit of Release Area OTWY-01 are defined by the outer limit of the Coastal Waters. The Coastal Waters shown on this map are indicative only. A precise determination of the Coastal Waters will be determined at the time of issue and included in the permit boundary as a Metes and Bounds determination.

IDEAS 9016-4

Figure 2. Graticular block map of offshore Greenhouse Gas Storage release areas for Assessment OTWY-01, Otway Basin.

WELL DATA

Well Completion reports – OTWY-01, Otway Basin

Well	Operator	Date	Total Depth (m)
Beachport 1	South East Oil Co	1961	1208
Beachport East 1	John Henry Resources P/L	1973	1429
Biscuit Flat 1	SAGASCO Resources	1992	2491
Chama 1	Esso Explor and Prod Aust Ltd	1970	2732
Chama 1A	Esso Explor and Prod Aust Ltd	1970	2748
Churinga 1	Oil Co of Aust NL	1998	1670
Copa 1	Cultus Resources NL	1989	3851
Crankshaft 1	Irvin Weitzman	1992	2535
Crayfish 1A	Esso Standard Oil	1967	3200
Geltwood Beach 1	Beach Petroleum NL	1963	3749
Greenways 1	Mosaic Oil NL	1991	1607
Hatherleigh 1	SAGASCO Resources	1990	592
Lake Eliza 1	Esso Explor and Prod Aust Ltd	1969	1473
Lake Eliza 2	General Explor Co of Aust P/L	1973	1158
Lake Hawdon 1	Hartogen Energy Ltd	1988	2083
Morum 1	Esso Explor and Prod Aust Ltd	1973	2439
Neptune 1	Esso Explor and Prod Aust Ltd	1973	2436
Nunga Mia 1	Oil Co of Aust NL	1996	2650
Reedy Creek 1	Gas and Fuel Exploration NL	1992	2669
Rendelsham 1	SAGASCO Resources	1994	2775
Robe 1	SA Oil Wells Co	1915	1372
Saint Clair 1	Gas and Fuel Exploration NL	1993	3284
Sophia Jane 1	SAGASCO Resources	1995	2340
Troas 1	BHP Petroleum	1992	1430
Troas 1 ST1	BHP Petroleum	1993	3506
Trumpet 1	Esso Explor and Prod Aust Ltd	1973	2256

Analysis reports – OTWY-01, Otway Basin

Well	State	Year	Test	Title
Beachport 1	SA	1971	Geology	A Review of the Otway Basin.
Chama 1	SA	1995	Petrography	Sedimentologic Descriptions and Petrography of Cretaceous Cores
Chama 1	SA	1995	Lithology	Sedimentologic Descriptions and Petrography of Cretaceous Cores
Crayfish 1A	SA	1998	Palynology	New Crayfish-1 Paly and Revision of Sophia Jane-1
Geltwood Beach 1	SA	1965	Drilling report	Petrological study of sediments from Geltwood Beach, Otway basin, SA.
Geltwood Beach 1	SA	1963	Drilling report	Structure hole drilling Project final report.
Geltwood Beach 1	SA	1965	Drilling report	Summary of data and results, Otway Basin, South Australia.
Geltwood Beach 1	SA	1971	Geology	A Review of the Otway Basin.

Geltwood Beach 1	SA	1995	Petrography	Sedimentologic Descriptions and Petrography of Cretaceous Cores
Geltwood Beach 1	SA	1995	Lithology	Sedimentologic Descriptions and Petrography of Cretaceous Cores
Morum 1	SA	1987	Palynology(Mesozoic)	Studies in Australian Mesozoic Palynology
Sophia Jane 1	SA	1998	Palynology	New Crayfish-1 Paly and Revision of Sophia Jane-1
Trumpet 1	SA	2003	Min and Cap pressure	Mineralogical and Capillary Pressure Analysis

Geoscience Australia's geological databases provide detailed biostratigraphic (STRATDAT), geochemical (ORGCHEM) and interpreted depositional environment information (RESFACS) from open file exploration wells. <http://dbforms.ga.gov.au/www/npm.well.search>.

Contact Geoscience Australia's Repository for more information or to arrange access to open file exploration wells, phone 61 (0)2 6249 9222, e-mail ausgeodata@ga.gov.au.

PHYSICAL DATA

Cores and Cuttings – OTWY-01, Otway Basin

Well	Type	Top (m)	Bottom (m)	Remark
Beachport 1	Cuttings	0	1222.86	
Beachport 1	Core	638.41	1203.65	100mm of every 600mm recovered.
Beachport East 1	Cuttings	57.92	1426.82	
Chama 1	Cuttings	281.03	1283.21	Original depths in feet.
Chama 1	Core	295.05	730	Donated samples
Chama 1	Cuttings	281.03	1283.21	Donated samples Second set
Chama 1A	Cuttings	284.99	2743.2	Unwashed cuttings
Chama 1A	Core	2743.2	2747.77	
Chama 1A	Cuttings	284.99	2743.2	Donated samples
Chama 1A	Core	2743.5	2747.77	Donated samples
Chama 1A	Sidewall core	1162.51	2738.63	Donated samples
Copa 1	Cuttings	430	3850	Washed and dried samples: Average weight 112.6gms
Crayfish 1A	Cuttings	243.9	3196.64	
Crayfish 1A	Sidewall core	362.8	821.64	Numbers 3(2),5,6,8,9,15,23,29.
Crayfish 1A	Core	333.23	3196.34	Continuous core.
Geltwood Beach 1	Core	609.75	3729.26	100mm of every 600mm recovered.
Geltwood Beach 1	Cuttings	4.57	3750	
Lake Eliza 1	Core	1076.82	1437.19	Continuous core
Lake Eliza 1	Sidewall core	286.51	1386.54	Donated samples
Lake Eliza 1	Cuttings	18.29	1463.41	
Lake Eliza 2	Cuttings	94.49	1158.24	Original depths in feet.
Lake George 1	Core	1262.8	1369.2	Continuous core.
Lake George 1	Cuttings	12.19	1368.9	
Morum 1	Core	1493.22	1502.97	Continuous core.
Morum 1	Core	1493.22	1502.97	Second set
Morum 1	Cuttings	438.91	2435.35	Second set
Morum 1	Cuttings	929.79	2438.4	Original depths in feet.
Morum 1	Sidewall core	1934.87	2433.83	
Neptune 1	Core	1453.9	1458.77	Second set
Neptune 1	Cuttings	182.88	2435.35	Second set
Neptune 1	Core	1453.9	1459.38	Continuous core.
Neptune 1	Cuttings	182.88	2435.96	Original depths in feet.
Neptune 1	Sidewall core	865.63	2429.26	
Sophia Jane 1	Cuttings	120	2340	Duplicate set available
Troas 1	Cuttings	370	1420	
Troas 1	Cuttings	1230	3500	sidetrack 1
Trumpet 1	Core	1313.38	1321.31	Continuous core
Trumpet 1	Cuttings	187.45	2255.52	Second set
Trumpet 1	Core	1313.38	1321.31	Second set
Trumpet 1	Cuttings	187.45	2255.52	Original depths in feet
Trumpet 1	Sidewall core	851	2240.28	

Contact Geoscience Australia's Repository for more information or to arrange access to core and cuttings, phone 61 (0)2 6249 9222, e-mail ausgeodata@ga.gov.au.

GEOPHYSICAL DATA

Seismic Surveys – OTWY-01 Otway Basin

Survey Name	UNO	Year	Type	Processed	Field	Navigation
OH91B	S3910001	1991	2D	Yes	Yes	Yes
Chevron 1985 EPP 22	S5850003	1985	2D	No	Yes	Yes
EPP-SA-22	S5860001	1986	2D	Yes	Yes	Yes
AGSO 48	S0850001	1985	2D	Yes	Yes	Yes
OH91	S5910003	1991	2D	Yes	Yes	Yes
Troas Site Survey	S5920040	1992	2D	No	Yes	Yes
OC90C Rhonda C	S0900002	1990	2D	Yes	Yes	Yes
HO93	S5930001	1993	2D	No	Yes	Yes
Crayfish	S5940001	1994	2D	Yes	Yes	Yes
Lacepede Shelf (Boomer) 1989	S5890003	1989	2D	No	No	Yes
Admella 1997	S5980001	1998	2D	No	No	Yes
King 1967	not known	1967	2D	No	No	Yes

Contact Geoscience Australia's Repository for more information or to arrange access to the seismic data, phone 61 (0)2 6249 9222, e-mail ausgeodata@ga.gov.au.

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Refer to the CRC for Greenhouse Gas Technologies website www.co2crc.com.au for further references associated with Greenhouse Gas Storage.